

Rec'd PCT/PTO 26 JAN 2005

INTERNATIONAL SEARCH REPORT		International application No. PCT/US03/23426																																							
A. CLASSIFICATION OF SUBJECT MATTER IPC(7) : B01L 3/00 US CL : 422/102,129,131 According to International Patent Classification (IPC) or to both national classification and IPC																																									
B. FIELDS SEARCHED Minimum documentation searched (classification system followed by classification symbols) U.S. : 422/102,129,131																																									
Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched																																									
Electronic data base consulted during the international search (name of data base and, where practicable, search terms used)																																									
C. DOCUMENTS CONSIDERED TO BE RELEVANT <table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th style="text-align: left; padding: 2px;">Category *</th> <th style="text-align: left; padding: 2px;">Citation of document, with indication, where appropriate, of the relevant passages</th> <th style="text-align: left; padding: 2px;">Relevant to claim No.</th> </tr> </thead> <tbody> <tr> <td style="padding: 2px;">X</td> <td style="padding: 2px;">US 5,589,136 A (NORTHRUP et al) 31 December 1996 (31.12.1996), entire document.</td> <td style="padding: 2px;">1,3,4,6-8,16,18,20,23</td> </tr> <tr> <td style="padding: 2px;">---</td> <td></td> <td style="padding: 2px;">-----</td> </tr> <tr> <td style="padding: 2px;">Y</td> <td></td> <td style="padding: 2px;">2,5,9-15,17,19,22,24-43</td> </tr> <tr> <td style="padding: 2px;">X</td> <td style="padding: 2px;">US 6,309,889 B1 (CUTLER et al) 30 October 2001 (30.10.2001), entire document.</td> <td style="padding: 2px;">1,6-</td> </tr> <tr> <td style="padding: 2px;">---</td> <td></td> <td style="padding: 2px;">8,16,18,20,21,23,25,29-31</td> </tr> <tr> <td style="padding: 2px;">Y</td> <td></td> <td style="padding: 2px;">-----</td> </tr> <tr> <td style="padding: 2px;">X</td> <td style="padding: 2px;">US 5,849,208 A (HAYES et al) 15 December 1998 (15.12.1998), entire document.</td> <td style="padding: 2px;">2,5,9-15,17,19,22,24,26-28,32-43</td> </tr> <tr> <td style="padding: 2px;">---</td> <td></td> <td style="padding: 2px;">-----</td> </tr> <tr> <td style="padding: 2px;">Y</td> <td></td> <td style="padding: 2px;">1,3,4,6,7,13,14,16,18,20,21,23</td> </tr> <tr> <td style="padding: 2px;">X</td> <td></td> <td style="padding: 2px;">-----</td> </tr> <tr> <td style="padding: 2px;">---</td> <td></td> <td style="padding: 2px;">2,5,8-</td> </tr> <tr> <td style="padding: 2px;">Y</td> <td></td> <td style="padding: 2px;">12,15,17,19,22,24-43</td> </tr> </tbody> </table>			Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.	X	US 5,589,136 A (NORTHRUP et al) 31 December 1996 (31.12.1996), entire document.	1,3,4,6-8,16,18,20,23	---		-----	Y		2,5,9-15,17,19,22,24-43	X	US 6,309,889 B1 (CUTLER et al) 30 October 2001 (30.10.2001), entire document.	1,6-	---		8,16,18,20,21,23,25,29-31	Y		-----	X	US 5,849,208 A (HAYES et al) 15 December 1998 (15.12.1998), entire document.	2,5,9-15,17,19,22,24,26-28,32-43	---		-----	Y		1,3,4,6,7,13,14,16,18,20,21,23	X		-----	---		2,5,8-	Y		12,15,17,19,22,24-43
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<input checked="" type="checkbox"/> Further documents are listed in the continuation of Box C. <input type="checkbox"/> See patent family annex.																																									
* Special categories of cited documents: "A" document defining the general state of the art which is not considered to be of particular relevance "E" earlier application or patent published on or after the international filing date "L" document which may throw doubts on priority claim(s) or which is cited to establish the publication date of another citation or other special reason (as specified) "O" document referring to an oral disclosure, use, exhibition or other means "P" document published prior to the international filing date but later than the priority date claimed																																									
Date of the actual completion of the international search <u>01 December 2003 (01.12.2003)</u>		Date of mailing of the international search report <u>23 DEC 2003</u>																																							
Name and mailing address of the ISA/US Mail Stop PCT, Attn: ISA/US Commissioner for Patents P.O. Box 1450 Alexandria, Virginia 22313-1450 Facsimile No. (703)305-3230		Authorized officer Jill Warden  Telephone No. (703) 308-0661																																							

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C. (Continuation) DOCUMENTS CONSIDERED TO BE RELEVANT

Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
Y	US 6,306,658 B1 (TURNER et al) 23 October 2001 (23.10.2001), entire document.	25
Y,P	US 6,436,720 B1 (OBERBECK et al) 20 August 2002 (20.08.2002), entire document.	25
Y,P	US 6,576,196 B1 (AKPORIAYE et al) 10 June 2003 (10.06.2003), entire document.	25
Y,P	US 6,485,690 B1 (PFOST et al) 26 November 2002 (26.11.2002), entire document.	25
X	US 4,702,888 A (BORGIALLI) 27 October 1987 (27.10.1987), entire document.	1,5,12-14,20,21 2-4,6-11,15-19,22-40
A	US 5,304,487 A (WILDING et al) 19 April 1994 (19.04.1994), entire document.	1-40
A,E	US 6,558,625 B1 (DEVES et al) 6 May 2003 (06.05.2003), entire document.	1-40
A,E	US 6,599,736 B2 (MCCASKILL et al) 29 July 2003 (29.07.2003), entire document.	1-40